TELECONFERENCE

MODERATOR:
JUSTIN KENNEY,
DIRECTOR OF COMMUNICATIONS,
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

SPEAKERS:
JANE LUBCHENCO,
ADMINISTRATOR,
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

NICK SHAY,
PROFESSOR OF METEOROLOGY AND PHYSICAL OCEANOGRAPHY,
ROSENSTIEL SCHOOL OF MARINE AND ATMOSPHERIC SCIENCE,
UNIVERSITY OF MIAMI

LT. CMDR. NANCY ASH,
PROJECT MANAGER, SCIENTIFIC, TECHNICAL AND LOGISTICAL SUPPORT, P-3 LOOP CURRENT MISSION, NOAA

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OPERATOR: Good afternoon, and thank you for standing by. All parties will be able to listen only until the Q&A portion of today's conference. If you would like to ask a question during the Q&A portion, you may press *1 on your phone. To withdraw your question, you may press *2. Today's conference call is being recorded. If anyone has any objections, you may disconnect at this time.

I would now like to turn today's call over to Mr. Justin Kenney. Sir, you may begin.

JUSTIN KENNEY: Thank you, operator, and thank you all for joining us for this briefing on the BP oil spill's trajectory in relation to the Loop Current and preparations for a NOAA research flight investigating the Loop Current.

My name is Justin Kenney, director of communications for NOAA, and joining me today is Dr. Jane Lubchenco, NOAA administrator. Dr. Lubchenco's last name is spelled L-U-B-C-H-E-N-C-O.

Also on the phone to help answer your questions is Dr. Nick Shay. That's Nick, N-I-C-K, and the last name is S-H-A-Y. Dr. Shay is professor of meteorology and physical oceanography from the University of Miami's Rosenstiel School of Marine and Atmospheric Science. Dr. Shay and the University of Miami are long-time partners of NOAA and atmospheric and oceanic research.

Also on the phone is NOAA core officer Lt. Cmdr. Nancy Ash – that's A-S-H. Lt. Cmdr. Ash is the NOAA project manager in charge of coordinating the scientific, technical and logistical support for the P-3 Loop Current mission.

In a moment here I'll turn it over to Dr. Lubchenco, who will provide some brief opening remarks and then we'll go right to your questions. I do ask that when we get to the question and answer session, please introduce yourself and your affiliation and limit your questions to one per person so that we can get to as many of them as possible. And with that I turn it over to Dr. Lubchenco.

JANE LUBCHENCO: Hi, everyone. Thanks for joining us. There continues to be a great deal of interest by the public and concern about the Loop Current in the Gulf of Mexico and its relationship to the oil and the water. Two days ago we held our first briefing about the Loop Current and we're pleased that you were able to join us today for this update.

From the outset, we have been monitoring the location of the oil slick and its proximity to the Loop Current, taking seriously any potential implications it may have in Florida, the East Coast and other countries. Today I want to review three things: one, what we know about the Loop Current; two, how we are monitoring its location and its interaction with the oil slick; and,

three, what the federal government and our partners are doing to insure public safety and awareness.

By now you have probably all seen sketches of the Loop Current and its general path. The Loop Current is an area of warm water, comes up from the Caribbean, blowing past the Yucatan Peninsula and into the Gulf of Mexico. From there it generally curves east across the Gulf and then flows south, parallel to the west coast of Florida. As it flows between Florida and Cuba, it becomes the Florida Current, which moves through the Florida straits, where it finally joins the Gulf Stream to travel up the Atlantic coast.

Both the location of the Loop Current and the location of the oil slick move around from day to day. The present location of the oil is carefully tracked through analysis of satellite imagery, daily observer overflights with helicopters and fixed-wing aircraft, as well as advanced fencing technology on aircraft. These observations help develop NOAA's trajectory models.

Additionally, a NOAA P-3 research aircraft, one of our hurricane hunters, has been deployed to fly over the Gulf to deploy air-launched probes in the vicinity of the Loop Current. These will allow us to collect more data about the locations of the Loop Current. The P-3 flew on May 8 and again on Tuesday this week and, as Justin mentioned, is scheduled to fly another mission tomorrow.

The probe activates upon hitting the ocean surface and immediately begins transmitting data about sea temperature, salinity and current back to computers aboard the aircraft, providing information about surface and subsurface oceanography, including currents. The probes being dropped from the P-3 allow us to improve the resolution from satellite images because they provide direct sampling of the vertical profile of temperature and salinity in the water.

I'm joined today by the lead research scientist on the current P-3 mission, Dr. Nick Shay of the University of Miami, who will be able to answer questions about the mission.

Based on all of these monitoring efforts, NOAA reported yesterday afternoon that a small portion of the oil slick has reached the Loop Current in the form of light to very light sheens. We continue to carefully monitor where the current takes this oil.

As I mentioned earlier, the Loop Current is complex. In addition to the main loop, there is a clockwise eddy in the middle of the Gulf at the top edge of the Loop Current, and so some of the oil may get caught in this clockwise eddy in the middle of the Gulf and not be carried to the Florida Strait at all.

If oil were to be carried toward the Florida Straits, it's likely to take eight to 10 days to get there. During this transit time, the natural process of evaporation and dispersion would reduce the oil volume significantly. In addition to that, the oil weathers during that time and

would be, by the time it arrives, more in the form of streamers – emulsified streamers and possibly tar balls.

If the oil were carried to the straits, persistent onshore winds or an eddy on the edge of the Loop Current would be required for it to actually reach the Florida shoreline. And, again, if that happened, the weathered and diluted oil would likely appear in isolated locations in the form of tar balls.

Now, you may be aware that yesterday the Coast Guard confirmed that the tar balls collected on Tuesday in the Florida Keys did not originate – I repeat, did not originate with the BP oil spill. NOAA will continue to closely monitor this portion of the oil over the next two – in the next days to weeks. And I want to emphasize that the bulk of the oil remains well to the north of the Loop Current.

Currently only the southern tip of the slick, consisting of sheens of potentially unobserved tar balls, is in the vicinity of the Loop Current. NOAA is engaging experts within and outside government to develop long-term oil movement forecasts. Predicting where the oil may go if the release continues allows for adequate response measures and resources to be placed in appropriate locations.

From the outset, the federal response has been aggressive, strategic and science-based. This oil spill is unprecedented and dynamic. As situations change and as we gain new information, we will continue to reevaluate our response strategies, actions and planning. NOAA stands shoulder to shoulder with Gulf communities during these challenging times.

And let me say that this is a time for awareness and preparation, not overreaction. We take this spill very, very seriously and so should everyone, and we continue to monitor the situation and deploy the assets, the people and the expertise we have to respond appropriately.

The P-3 mission is an example of the cooperation and the collaboration we have seen from the University and private-sector partners across the agency. This has been heartening and indeed critical to ensure the federal response brings together all relevant expertise, knowledge and assets at this challenging time.

MR. KENNEY: Well, thank you, Dr. Lubchenco. And, Crystal (sp), I think we're ready to go to the Q&A session, please.

OPERATOR: Thank you. Our first question comes from Curtis Morgan with the Miami Herald.

Q: Yeah, hi, everybody. The one thing that I know the public and my editors seem to be struggling with is the volume of oil, not just the consistency but – we're talking about a small amount but yet it's visible from satellite. Is there any way to quantify – you know, we're talking

about 5,000 or 19,000 barrels a day from the well. This is the leading – little leading edge. I mean, is there any way to quantify, from the imagery, what might be making its way down here?

MS. LUBCHENCO: So, Curtis, I just want to check on what you're asking. Is there any way to quantify –

Q: How much is –

MS. LUBCHENCO: – the oil that might make it to Florida?

Q: How much is in the loop? Yeah, are we talking thousands of barrels? Yeah, because, you know, you have all hands on deck kind of expectations down here from some people, but, you know, other people are saying we're not going to see anything. Is there any way to talk about percentages of that slick or volume of oil or some way to quantify it other than a very small amount?

MS. LUBCHENCO: So, at this point, I mean, if you look at the satellite images, it is obvious from those images that the bulk of the oil that is at the surface is way far away from the Loop Current. At this point, the best we can say is that it is only a very small amount that is in the Loop Current.

We are working with our collaborators in other federal agencies to be able to quantify that better. The P-3 information is one key part of that but there is additional work being done on imaging of high-resolution images of the surface, and I think we will be able to do that in the not-too-distant future.

So, for the time being, I think the main message is that there is only a small amount of oil that is entrained in the Loop Current and that by the time it makes it to the Florida Strait, it's likely to be transformed into tar balls, into streamers, and much of that may never reach shore at all, although some of it certainly might. And I understand the desire to be able to have more quantitative information, but it's extraordinarily challenging to be able to do that at this point.

OPERATOR: Thank you. Our next question comes from Seth Borenstein, the Associated Press.

Q: Yes, thank you. It's Seth Borenstein from the Associated Press. And let's push a little bit more for some actual science-based figures here.

BP today said that 5,000 barrels are being caught by the tube, and yet somehow there's only 5,000 barrels going – according to their estimate, the estimate you're using, 5,000 barrels flowing and more than 5,000 barrels – and yet if you look at the video, there is still quite a bit going in there.

BP now acknowledges that the 5,000-barrel estimate, or guess, is nowhere near right, but they're saying it's up to NOAA and the Coast Guard to revise the figure. One, will you use science this time to come up with an estimate and tell us how it is? And when will you revise this estimate?

MS. LUBCHENCO: Hey, Seth, how are you?

Q: (Chuckles.) Still trying to find an answer for weeks here.

MS. LUBCHENCO: Yep. Okay, so I think, first and foremost, 5,000 was always understood to be a very rough estimate. That number was useful and sort of the best estimate at the time. The federal government earlier this week stood up an interagency task force to really get to the bottom of the flow-rate question – in a scientific fashion, exactly what you're asking for. And let me back up for just a minute and talk a little bit about sort of how we got to where we are with the number issues.

For most oil spills – well, let me start differently. In the beginning, there was an estimate based on underwater – undersea observations of the oil coming out of the riser pipe. It quickly became obvious to people looking at the surface that what was accumulating was much more than would be the case if those estimates – those original estimates were right.

And so we utilized an internationally agreed-upon technique under the Bonn Agreement to assess – to do a revised estimate of the spill – of the flow rates, and that's based on visual estimates at the surface of the size and the nature, the approximate thickness based on color.

Now, as the spill increased in size and began to break up, it was no longer possible to utilize that effort, which is why we have shifted to using multiple paths to try to get at better estimates. We have always said that it's extremely important to get a reliable flow rate, but we've known all along that doing so would be extraordinarily difficult.

The response to the spill has never been pegged to that estimate of five or any other estimate. We've always pegged our response to the worst-case scenario and had much more significant effort than would have been required had it only been five.

We will not stop until the oil leak is stopped, until we have mitigated the impact and recovered all of – or ensured that all legitimate claims have been satisfied, and we will continue to do that using best available science.

The interagency team that is working on refining the flow rate estimates is making the best use of the information we have in hand and is working around the clock to come up with those estimates. They don't have a precise timeline but I think everyone understands the importance of having a good number, number one, and to have the number be one that is based

on good information that is scientifically credible and has been peer-reviewed. And so that's the process that we are going through.

I want to emphasize that having the flow rate is important. We're working on it. Our response has never been pegged to any particular estimate. It has always been much more aggressive than the early flow rates that were put out there.

OPERATOR: Our next question comes from Karen Nelson, Sun Herald, Biloxi.

Q: Hi. Thanks for taking my question. I see that you're going to take – I understand what you're saying with the flight and the data collecting instruments that you're going to send to the surface, but what about the undersea layers that we've been hearing about, and wouldn't a ship or something on the surface – you've got the Gunter or there's some other ships you've got.

Wouldn't sending those into that area to check out these plumes that people keep talking about that could be as large as 10 miles wide, that sort of thing, that's concerning people under surface that you can't see as readily from a plane flight?

MS. LUBCHENCO: Yes, you're absolutely correct. There are a lot of things that we're doing, both to get a good sense of where the oil is on the surface and the subsurface, and we have a number of ships that are being mobilized to help collect additional data. Those are either in place or en route. And we are very much looking forward to getting that information in hand.

It's a pretty huge area that we're looking at, and so we're approaching it very strategically. Using the oceanographic models that we have, we can make some pretty good estimates about where oil – if it is in the water column at different depths – where it's likely to go. And, based on that, we can strategically deploy different vessels to be sampling different places.

I think everyone appreciates that this subsurface oil is a unique feature of this spill. It is one that is important for us to get a handle on, which is why we are mobilizing a lot of both the university as well as government assets, not just limited to planes but also involving ships and ship-towed instruments to characterize this better.

OPERATOR: Our next question comes from Tom Brown with Reuters.

Q: Yes, thank you. If I might ask, Dr. Lubchenco, in light of the letter today from Sec. Napolitano and from Lisa Jackson to Mr. Hayward, where do you think BP has fallen short in keeping the public and government informed about the spill? And if I might ask, if it's not entirely science based but since 5,000 is no longer a reasonable estimate, what would be a better ballpark figure to be using at this point?

MS. LUBCHENCO: At this point it would not be appropriate to speculate on what the estimate is. We believe that we're best served by actually having good either direct observations or indirect calculations that are quantifiable and where we can actually come up with a number that's defensible.

So that's why this technical team has been stood up within the federal government to really work this flow rates issue hard. As Adm. Allen has been saying, he's locked these scientists in a room and is just stuffing pizzas underneath the door until they emerge with a number. (Chuckles.)

So I think that that – just to clarify where we are with that, the statement that was – or the letter today that went from Administrator Jackson and Secretary Napolitano was asking BP to be more transparent with its video, with its data, and to post more information publicly on a website.

I think that is consistent with our continual efforts within this administration to be as open and transparent as possible, and instead of having to go through multiple sort of BP passing the information to somebody else, passing it to somebody else, eventually making it on the website, there has been a request directly to BP to simply make it available and to put it up there, and that's exactly what the agencies are doing as well.

If you look at the NOAA.gov website or the Google website that we are posting a lot of our information on, or the Deep Horizon Response website, Deep Water Horizon website, there is a lot of information. All of our trajectories, a lot of what we are learning day to day, is being shared very, very rapidly, and we will continue – as much of the data from the ships begin to come in, we will be posting those as well, but there is a lag time for many of the ships between when the data are taken, when they get back to port, when they've been analyzed by a lab and verified.

You have to go through a process that's called QAQC, which means quality assured quality controlled. And we want to make sure that the data are robust and then they will be made publicly available.

OPERATOR: Our next question comes from Mark – (inaudible) – Christian Science Monitor.

Q: Hi. Thanks for taking my call. I'm wondering if the order by the EPA to BP to switch dispersants from what they've been putting into the water up to now, if that has any effect on what data you're collecting, or what sort effect it will have moving forward in terms of data collection and analyzing the oil spill.

Obviously I'm assuming they're saying there's going to be more – there's been more toxicity in the water because of this, what they've been using, and I wonder if, you know,

changing that in order to just kind of switch gears will switch up what you're looking at going forward, especially with analyzing the Loop Current.

MS. LUBCHENCO: Okay, there were multiple questions in that. That was a pretty sneaky way of getting lots of questions in. So let me start from the top here. I think most of you know that in most oil spills, most of the oil is accumulating at the surface. This one is a little different because it's so deep, but historically most would be at the surface.

And we know that oil is extremely toxic, and it's toxic to multiple life stages, not just eggs and larvae and small things in the water column but all the way up to whales, other marine mammals, turtles, birds, et cetera.

We also know that oil, once it gets into marshes, estuaries, the bayous that are so characteristic of the Gulf, it's very, very difficult to get rid of. It's not quite as simple as scrubbing it off rocky sea shores, for example. And we know that it is very toxic to many of the young stages that depend on estuaries as nursery habitat. Many of the crabs, many of the fish, many of the important species in the Gulf depend on estuaries.

And so, the use of dispersants has been – the determination was that one of the tools to be used to mitigate and minimize the harm that the oil at the surface might have, either directly on wildlife or once it gets ashore into marshes, is to use dispersants. And the concept there is that the dispersants are like a detergent. They break it up into very, very small droplets, and those droplets can degrade much faster than a big mass of oil that's at the surface.

And the EPA has a list of dispersants that are approved for use on oil spills. Those dispersants range, in their toxicity. All of them are significantly less toxic than oil but they do range in toxicity and they also biodegrade relatively rapidly. And so, this is a question of trade-offs. An oil spill is a bad thing. Trying to mitigate the impact of the spill is a question of tradeoffs.

This spill is very unusual in its volume and its ongoing nature. And because of that, dispersants have been used in much greater volume than ever has been the case within the U.S. – within U.S. waters for an oil spill.

And so, EPA and their partners within the federal agencies, including NOAA, have become increasingly concerned about the specific dispersants that were being used, which is what has led EPA to direct BP to use different dispersants, ones that are less toxic. So that's sort of the back story, and that was a fairly long-winded explanation but I thought it would be useful to just lay it all out.

Let me just conclude by saying I'm hopeful that some of you will be asking questions about the P-3 and the cool way that we're using this technology to get better information on the Loop Current.

We're ready for the next question, operator.

OPERATOR: Our next question comes from Nancy Moore (sp) from BNA. Your line is open.

Q: Thank you. This is a question about the Loop Current but not quite the one you wanted. You're putting a lot of emphasis on the Loop Current concerns. There was a lot about it yesterday as well. Is it potentially a much larger problem than other currents or other eddies in the Gulf where the oil could accumulate?

MS. LUBCHENCO: I think the emphasis on the Loop Current is mostly a reflection of the fact that the bulk of the oil is well within the Gulf, and most of the initial mitigation efforts were focused on dealing with it in that place, and the Loop Current simply opens up an avenue for transporting at least a small amount of that oil elsewhere.

So our focus on it has been very much staying ahead of the situation, monitoring it closely, letting everyone know what's going on so that there can be adequate preparation in advance of something happening.

It is not the case that we expect, at this point, a significant amount of oil to get entrained in the Loop Current, but of course the oil continues to flow and we are – while doing everything possible to stop that flow, it would be premature to speculate on, you know, exactly the timeframe and how much – where the oil is going to go eventually.

OPERATOR: Our next question comes from Tim O'Hara from Key West Citizen. Your line is open.

Q: Yeah, it seems like that, you know, a lot of the concern is the oil reaching the beaches here in maybe the Florida Keys and in Florida, and reaching the mangroves here but, you know, as you know, Dr. Lubchenco, the Loop Current provides us with a ton of fish, lobster, larvae, other kinds of sensitive things that really wouldn't react too well to oil.

What some of the questions obviously today have focused on is, yeah, what are you doing to put boats out there so people can actually do water samples to determine the levels of chemicals that are in the water?

And, you know, as you know, at the bottom of the Loop Current and one of the closest things to it is the Dry Tortugas is probably, you know, a gem for the state of Florida and one of the most biological diverse ecosystems in our country.

You know, two questions here. You know, what concern is being placed on how this is going to impact sensitive quarries in the Dry Tortugas, and what types of, you know, ships or

whatever you have out there for monitoring the real impact on the larvae and the things that probably couldn't do well even in small traces of oil?

MS. LUBCHENCO: Tim, thanks for that question. Nice to talk to you. I really appreciate your focusing on one of the areas of great concern to us, which is not just oil on beaches but the impacts of the oil in the water on many of the sensitive species that are there. That is and will continue to remain a very serious concern that we have.

We have a team of researchers and experts and others in the Florida Keys National Marine Sanctuary that are actively taking data to provide baseline information in the sanctuary for multiple reasons – one, so that we do have good baseline information and can evaluate if changes happen, but, two, to give us some early warning of any indication that there is either oil approaching or species being impacted.

So, one of our vessels is in the area. We have teams that are doing surveys on the shores for exactly those purposes.

OPERATOR: Our next question comes from Starr Spencer from Platts. Your line is open.

Q: Hi. I'm just wondering, could the oil that's entrained in the Loop Current have any impact on the current trajectory at all? You know, how much does the trajectory of the Loop Current vary from day to day or from week to week?

MS. LUBCHENCO: Yeah, let me ask Dr. Shay to respond to that.

NICK SHAY: Yeah, the Loop Current is a relatively steady feature in the Gulf but it does move around. And one of the things that really helps it move around and train fluids from, say, the Continental Shelf, say the Northern Gulf, are these smaller-scale eddies.

These eddies are relatively transient. They move around the Loop Current all the time, and that's one of the big questions that the P-3 missions are trying to address is understanding how these smaller-scale eddies may actually facilitate the detachment of a larger warm-core eddy in the future.

When we look at satellite altimetry data, we're beginning to see a kink in the Loop Current path, and that's usually an indication that one of these warm core eddies will probably begin to separate here within the next month or two, and we've seen this kind of pattern in previous years.

Q: Okay, thanks.

MR. KENNEY: We have time for one more question, please.

OPERATOR: Our last question comes from Ari Shapiro from NPR. Your line is open.

Q: Hi, this is Ari Shapiro from National Public Radio. I appreciate that a panel of scientists is now working on creating a better estimate for undersea oil flow, but given the well-established techniques that have been around for a very long time to measure undersea oil flow, why has it taken a month into this crisis to come up with a solid, reliable number that apparently we still don't even have?

MS. LUBCHENCO: I think the simple answer is that there are well-established techniques. Using them required deploying additional ROVs down to the area, or having better video images, which also would require additional ROVs. And priority was given to stopping the flow of the oil as the very, very top-level goal. And it's a fairly crowded arena down there where the leaks are happening.

And, as you know, there have been multiple efforts to stem the flow and having lots of vehicles down there makes it more likely that there will be accidents or that they will interfere with each other's activity.

And so, without having access to the kinds of better instrumentation or better imaging or direct measurements that are feasible – we do have the knowledge and the instruments to do that – the decision was made that the first priority had to be to stop the flow. And that is not to say that anyone thought that the estimates were unimportant – everybody thinks it is important to get a good estimate – but that our effort, the response has not been pegged to a low estimate; it has been pegged to a worst-case scenario.

MR. KENNEY: Okay, thank you, Dr. Lubchenco, and thank you, Dr. Shay and Lt. Cmdr. Ash, for your time, and thank you all for joining us this afternoon. This concludes the call.

OPERATOR: Thank you for participating in today's conference call. You may disconnect at this time.

(END)